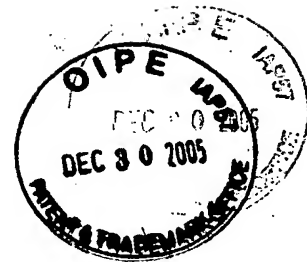


FIG. 1

GCTCCCGAGGCTCCGCACCGCGGCTTCTGTCCGCCCTGCAGGGCATTC  
GAAAGATGAGGATATTTGCTGCTTTATATTCATGACCTACTGGCATTTGCTG  
AACGCATTTACTGTCACGGTCCCAAGGACCTATATGTGGTAGAGTATGGTA  
GCAATATGACAAATTGAATGCAAAATCCAGTAGAAAACAATTAGACCTGGC  
TGCACTAATTGCTATTGGGAAATGGAGGATAAGAACAATTATTCAAATTTGTGC  
ATGGAGAGGAAGACCTGAAGGTTACGATAGTAGCTACAGACAGAGGGCCC  
GGCTGTTGAAGGACCAAGCTCTCCCTGGGAAATGCTGCACCTCAGATCACAGA  
TGTGAAATTCAGGATGCAGGGGTACCGCTGCATGATCAGCTATGTTGGT  
GCCGACTACAAGCGAATTACTGTGAAAGTCAATGCCCCATACAACAAATCA  
ACCAAGAAATTTTGGTTGTGGATCCAGTCACTGACCTGAACATGAACGACATGT  
CAGGCTGAGGGCTACCCCAAGGCCGAAGTCATCTGGACAAGCAGTGACCATC  
AAGTCCTGAGTGGTAAGACCAACCACCAATTCGAAGAGAGAGGAGAAGC  
TTTTCAATGTGACCAGCACACTGAGATCAACACAACTAATGAGATTTT  
CTACTGCACCTTTAGGAGATTAGATCCTGAGGAAACCATACAGCTGAATTG  
GTCATCCCAGGTAATATTCTGAATGTGTCCATTAAATATGTCTAACACTGTC  
CCCTAGCACCTAGCATGATGTCTGCCCTATCATAGTCATTCAGTGATTGTGAA  
TAAATGAATGAATGAATAACACTATGTTTACAAAATATATCCTAATTCCTCAC  
CTCCATTATCCAAACCATATTGTTACTTAATAAACATTCAGCAGATATTTAT  
GGAATAAAAAAATAAAAAA





## FIG. 2

CGAGGCTCCGCACCAGCCGCGCTTCTGTCCGCCTGCAGGGCATTCCAGAAAGA  
TGAGGATATTTGCTGTCTTTATATTCATGACCTACTGGCATTGCTGAACGCATT  
TACTGTCACGGTTCCCAAGGACCTATATGTGGTAGAGTATGGTAGCAATATGAC  
AATTGAATGCAAATCCCAGTAGAAAAACAATTAGACCTGGCTGCACTAATTGT  
CTATTGGGAAATGGAGGATAAGAACATTATTCAATTTGTGCATGGAGAGGAAG  
ACCTGAAGGTTTACGATAGTAGCTACAGACAGAGGGCCCGGCTGTTGAAGGAC  
CAGCTCTCCCTGGGAAATGCTGCACTTCAGATCACAGATGTGAAATTGCAGGAT  
GCAGGGGTGTACCGCTGCATGATCAGCTATGGTGGTGCCGACTACAAGCGAAT  
TACTGTGAAAGTCAATGCCCCATACAACAAAATCAACCAAAGAATTTTGTTGT  
GGATCCAGTCACCTCTGAACATGAACTGACATGTCAGGCTGAGGGCTACCCCA  
AGGCCGAAGTCATCTGGACAAGCAGTGACCATCAAGTCCTGAGTGGTAAGACC  
ACCACCACCAATTCCAAGAGAGAGGAGAAGCTTTTCAATGTGACCAGCACACT  
GAGAATCAACACAACAATAATGAGATTTTCTACTGCACTTTTAGGAGATTAGA  
TCCTGAGGAAAACCATACAGCTGAATTGGTCATCCCAGAACTACCTCTGGCACA  
TCCTCCAAATGAAAGGACTCACTTGGTAATTCTGGGAGCCATCTTATTATGCCTT  
GGTGTAGCACTGACATTCATCTTCCGTTTAAGAAAAGGGAGAATGATGGATGT  
GAAAAAATGTGGCATCCAAGATACAACTCAAAGAAGCAAAGTGATACACATT  
GGAGGAGACGTAATCCAGCATTGGAACCTTCTGATCTTCAAGCAGGGATTCTCA  
ACCTGTGGTTTAGGGGTTTCATCGGGGCTGAGCGTGACAAGAGGAAGGAATGG  
GCCCCGTGGGATGCAGGCAATGTGGGACTTAAAGGCCCAAGCACTGAAAATG  
GAACCTGGCGAAAGCAGAGGAGGAGAATGAAGAAAGATGGAGTCAAACAGGG  
AGCCTGGAGGGAGACCTTGATACTTTCAAATGCCTGAGGGGCTCATCGACGCC  
TGTGACAGGGAGAAAAGGATACTTCTGAACAAGGAGCCTCCAAGCAAATCATCC  
ATTGCTCATCCTAGGAAGACGGGTTGAGAATCCCTAATTTGAGGGTCAGTTCCT  
GCAGAAGTGCCCTTTGCCTCCACTCAATGCCTCAATTTGTTTTCTGCATGACTGA  
GAGTCTCAGTGTTGGAACGGGACAGTATTTATGTATGAGTTTTCTTATTTATT  
TGAGTCTGTGAGGTCTTCTTGTGATGTGAGTGTGGTTGTGAATGATTTCTTTTGA  
AGATATATTGTAGTAGATGTTACAATTTTGTGCGCCAACTAACTTGCTGCTTAA  
TGATTTGCTCACATCTAGTAAACATGGAGTATTTGTAAAAA



### FIG. 3

**292 secreted (245 amino acids)**

Signal/IgV/IgC/hydrophilic tail  
(a) (b) (c) (d)

Ig cysteines in large bold

MRIFAVFIFMTYWHLNA (signal)

FTVTVPKDLYVVEYGSNMTIE**C**KFPVEKQLDLAALIVYWEMEDKN  
IIQFVHGEEDLKVQHSSYRQARLLKDQLSLGNAALQITDVKLQD  
AGVYR**C**MISYGGADYKRITVKVNAPY (IgV)

NKINQRILVVDPVTSEHELT**C**QAEGYPKAEVIWTSSDHQVLSGKT  
TTNSKREEKLFNVTSTLRINTTTNEIFY**C**TFRRLDPEENHTAEL  
VIP (IgC)

GNILNVSIKICLTLSPST (hydrophilic tail)



## FIG. 4

### 292 membrane (290 amino acids)

Signal/IgV/IgC/transmembrane (underlined)  
plus cytoplasmic

Ig cysteines in large bold

MRIFAVFIFMTYWHLNA (signal)

FTVTVPKDLYVVEYGSNMTIE**C**KFPVEKQDLAALIVYWEMEDKN  
IIQFVHGEEDLKVQHSSYRQRRARLLKDQLSLGNAALQITDVKLQD  
AGVYRCMISYGGADYKRITVKVNAPY (IgV)

NKINQRILVVD PVTSEHELT**C**QAEGYPKAEVIWTSSDHQVLSGKT  
TTTNSKREEKLFNVTSTLRINTTTNEIFY**C**TFRRLDPEENHTAEL  
VIP (IgC)

ELPLAHPPNERTHLVILGAILLCLGVALTFIFRLRKGRMMDVKKC  
GIQDTNSKKQSDTHLEET (transmembrane plus cytoplasmic)



## FIG. 5A

AGATAGTTCCCAAAACATGAGGATATTTGCTGGCATTATATTCACAGCCTGC  
TGTCACCTTGCTACGGGCGTTTACTATCACGGCTCCAAAGGACTTGTACGTG  
GTGGAGTATGGCAGCAACGTCACGATGGAGTGCAGATTCCCTGTAGAACG  
GGAGCTGGACCTGCTTGCGTTAGTGGTGTACTGGGAAAAGGAAGATGAGC  
AAGTGATTCAGTTTGTGGCAGGAGAGGAGGACCTTAAGCCTCAGCACAGCA  
ACTTCAGGGGGGAGAGCCTCGCTGCCAAAGGACCAGCTTTTGAAGGGAAAT  
GCTGCCCTTCAGATCACAGACGTCAAGCTGCAGGACGCAGGCGTTTACTGC  
TGCATAATCAGCTACGGTGGTGC GGACTACAAGCGAATCACGCTGAAAGTC  
AATGCCCCATACCGCAAAATCAACCAGAGAATTTCCGTGGATCCAGCCACTT  
CTGAGCATGAACTAATATGTCAGGCCGAGGGTTATCCAGAAGCTGAGGTAA  
TCTGGACAAACAGTGACCACCAACCCGTGAGTGGGAAGAGAAGTGTACCA  
CTTCCCGGACAGAGGGGATGCTTCTCAATGTGACCAGCAGTCTGAGGGTCA  
ACGCCACAGCGAATGATGTTTTCTACTGTACGTTTTGGAGATCACAGCCAG  
GGCAAAACCACACAGCGGAGCTGATCATCCAGAACTGCCTGCAACACATC  
CTCCACAGAACAGGACTCACTGGGTGCTTCTGGGATCCATCCTGTTGTTCC  
TCATTGTAGTGTCCACGGTCCTCCTCTTCTTGAGAAAACAAGTGAGAATGCT  
AGATGTGGAGAAATGTGGCGTTGAAGATACAAGCTCAAAAAACCGAAATGA  
TACACAATTCGAGGAGACGTAAGCAGTGTGTAACCCTCTGATCGTCGATTG  
GCAGCTTGTGGTCTGTGAAAGAAAGGGCCCATGGGACATGAGTCCAAAGAC  
TCAAGATGGAACCTGAGGGAGAGAACCAAGAAAGTGTTGGGAGAGGAGCC  
TGAACAACGGACATTTTTTCCAGGGAGACACTGCTAAGCAAGTTGCCCAT  
CAGTCGTCTTGGGAAATGGATTGAGGGTTCCTGGCTTAGCAGCTGGTCCTT  
GCACAGTGACCTTTTCTCTGCTCAGTGCCGGGATGAGAGATGGAGTCATG  
AGTGTGGAAGAATAAGTGCCTTCTATTTATTTTGAGTCTGTGTGTTCTCACTT  
TGGGCATGTAATTATGACTGGTGAATTCTGACGACATGATAGATCTTAAGAT  
GTAGTCACCAAACCTCAACTGCTGCTTAGCATCCTCCGTAACCTACTGATACAA  
GCAGGGAACACAGAGGTCACCTGCTTGGTTTGACAGGCTCTTGCTGTCTGA  
CTCAAATAATCTTTATTTTTTCAAGTCTCAAGGCTCTTCGATAGCAGTTGTTCT  
GTATCAGCCTTATAGGTGTCAGGTATAGCACTCAACATCTCATCTCATTACA  
ATAGCAACCCTCATCACCATAGCAACAGCTAACCTCTGTTATCCTCACTTCA  
TAGCCAGGAAGCTGAGCGACTAAGTCACTTGCCACAGAGTATCAGCTCTC  
AGATTTCTGTTCTTCAGCCACTGTCTTTTCAAGGATAGAATTTGTCGTTAAGAA  
ATTAATTTAAAACTGATTATTGAGTAGCATTGTATATCAATCACAACATGCC  
TTGTGCACTGTGCTGGCCTCTGAGCATAAAGATGTACGCCGGAGTACCGGT  
CGGACATGTTTATGTGTGTTAAATACTCAGAGAAATGTTCAATTAACAAGGAG  
CTTGCATTTTAGAGACACTGGAAAGTAACTCCAGTTCATTGTCTAGCATTAC  
ATTTACCTCATTGCTATCCTTGCCATACAGTCTCTTGTCTCCATGAAGTGT  
CATGAATCTTGTTGAATAGTTCTTTTATTTTTTAAATGTTTCTATTTAAATGATA  
TTGACATCTGAGGCGATAGCTCAGTTGGTAAAACCTTTCTCACAAGTGTG  
AAACCCTGAGTCTTATCCCTAGAACCCACATAAAAAACAGTTGCGTATGTTT  
GTGCATGCTTTTGATCCCAGCACTAGGGAGGCAGAGGCAGGCAGATCCTG  
AGCTCTCATTGACCACCCAGCCTAGCCTACATGGTTAGCTCCAGGCCTACA  
GGAGCTGGCAGAGCCTGAAAAACGATGCCTAGACACACACACACACACA  
CACACACACACACACACACACCATGTACTCATAGACCTAAGTGCACC  
CTCCTACACATGCACACACATACAATTCAAACACAAATCAACAGGGAATTGT





FIG. 6

MRIFAGIIFTACCHLLRAFTITAPKDLWVEYGSNVTMECRFPVERELDLLALVWWEKEDEQVIQFVAGEE  
DLKPQHSNFRGRASLPKDQLLKGNAALQITDVKLQDAGVYCCIIISYGGADYKRITLKVNPYRKINQRISV  
DPATSEHELICQAEGYPEAEVIWNTSDHQPVSGKRSVTTSRTEGMLLNVTSRLVNATANDVFYCTFWR  
SQPGQNHTAEIPELPATHPPQNRTHWLLGSILLFLWSTVLLFLRKQVRMLDVEKCGVEDTSSKNRN  
DTQFEET.



# FIG. 7

mB7-4 vs. hB7-4

69% identity

mB7-4 1 MRIFAGIIFTACCHLLRAFTITAPKDLVVEYGSNVTMECRFPVERELDLLALVYWEKE 60  
MRIFA IF HLL AFT+T PKDLYVVEYGSN+T+EC+FPVE++LDL AL+VYWE E  
hB7-4 1 MRIFAVFIEMTYWHLNNAFTVTPKDLVVEYGSNMTIECKFPVEKQLDLAALIVYWEME 60  
mB7-4 61 DEQVIOFVAGEEDLKPOHSNFRGRASLPKDQLLKGNAAALQITDVKLQDAGVYCCIISYGG 120  
D+ +IQFV GEEDLK QHS++R RA L KDQL GNAALQITDVKLQDAGVY C+ISYGG  
hB7-4 61 DKNIIQFVHGEEDLKVOHSSYRQARLLKDQLSLGNAALQITDVKLQDAGVYRCMISYGG 120  
mB7-4 121 ADYKRITLKVNPYRKINQRI-SVDPATSEHELICQAEGYPEAEVIWTNSDHQPVSGKRS 179  
ADYKRIT+KVNAPY KINQRI VDP TSEHEL CQAEGYP+AEVIWT+SDHQ +SGK +  
hB7-4 121 ADYKRITVKNAPYNKINQRIILVDPVTSEHELTCQAEGYPKAEVIWTSSDHQVLSGKTT 180  
mB7-4 180 VTTSRTEGMLNVTSSLRVNATANOVFYCTFWRSPQGNHTAELIIPELPATHPPQNRTH 239  
T S+ E L NVTSLR+N T N++FYCTF R P +NHTAEL+IPELP HPP RTH  
hB7-4 181 TTNSKREEKLFNVTSTLRINTTTNEIFYCTFRRRLDPEENHTAELVIPELPLAHPNERTH 240  
mB7-4 240 WVLLGSILLFLIVVSTVLLFLRKQVRMLDVEKCGVEDTSSKNRNDTQFEET 290  
V+LG+ILL L V T + LRK RM+DV+KCG++DT+SK ++DT EET  
hB7-4 241 LVILGAILLCLGVALTFIFRLRKG-RMMDVKKCGIQDTNSKKQSDTHLEET 290



FIG. 8

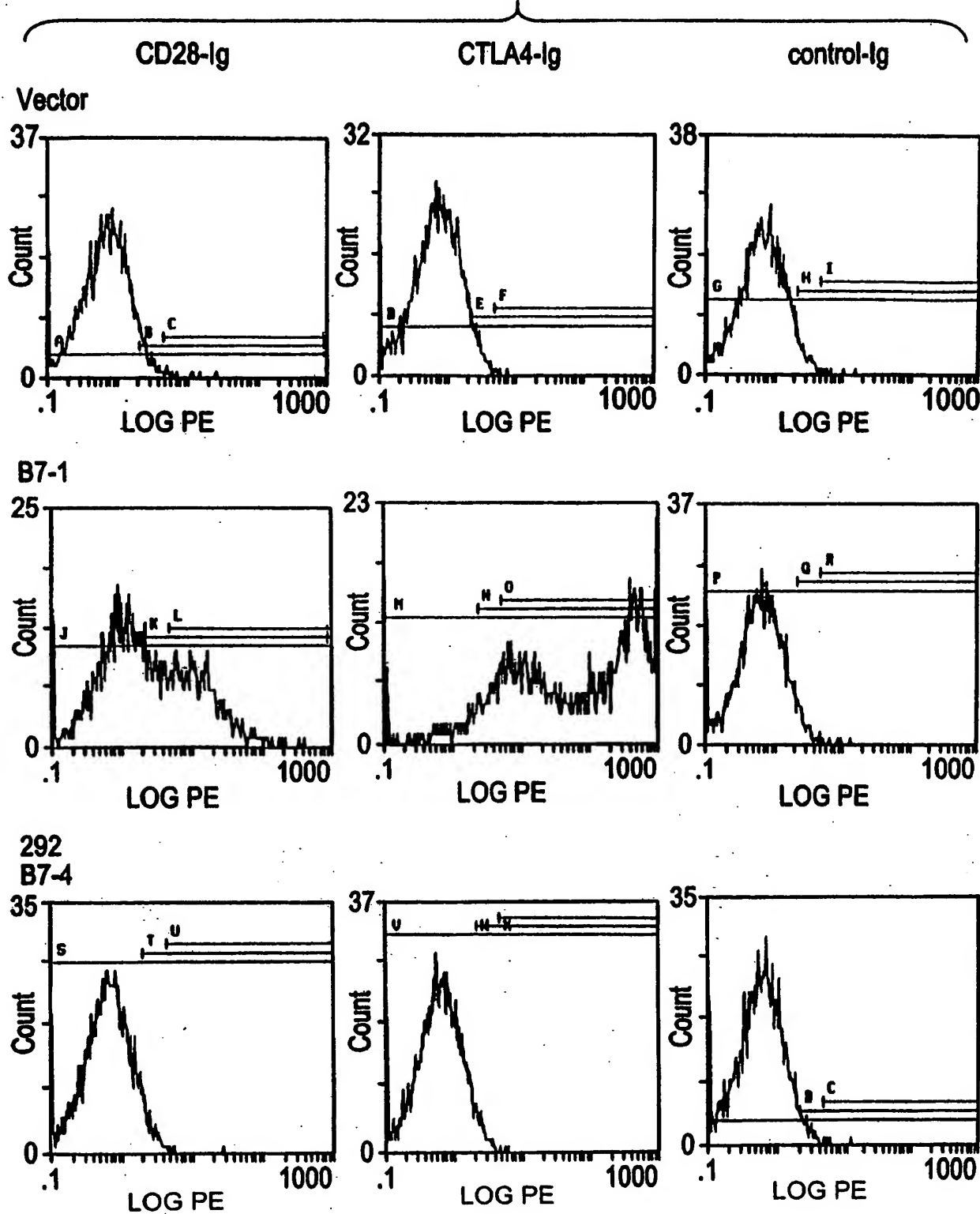




FIG. 9

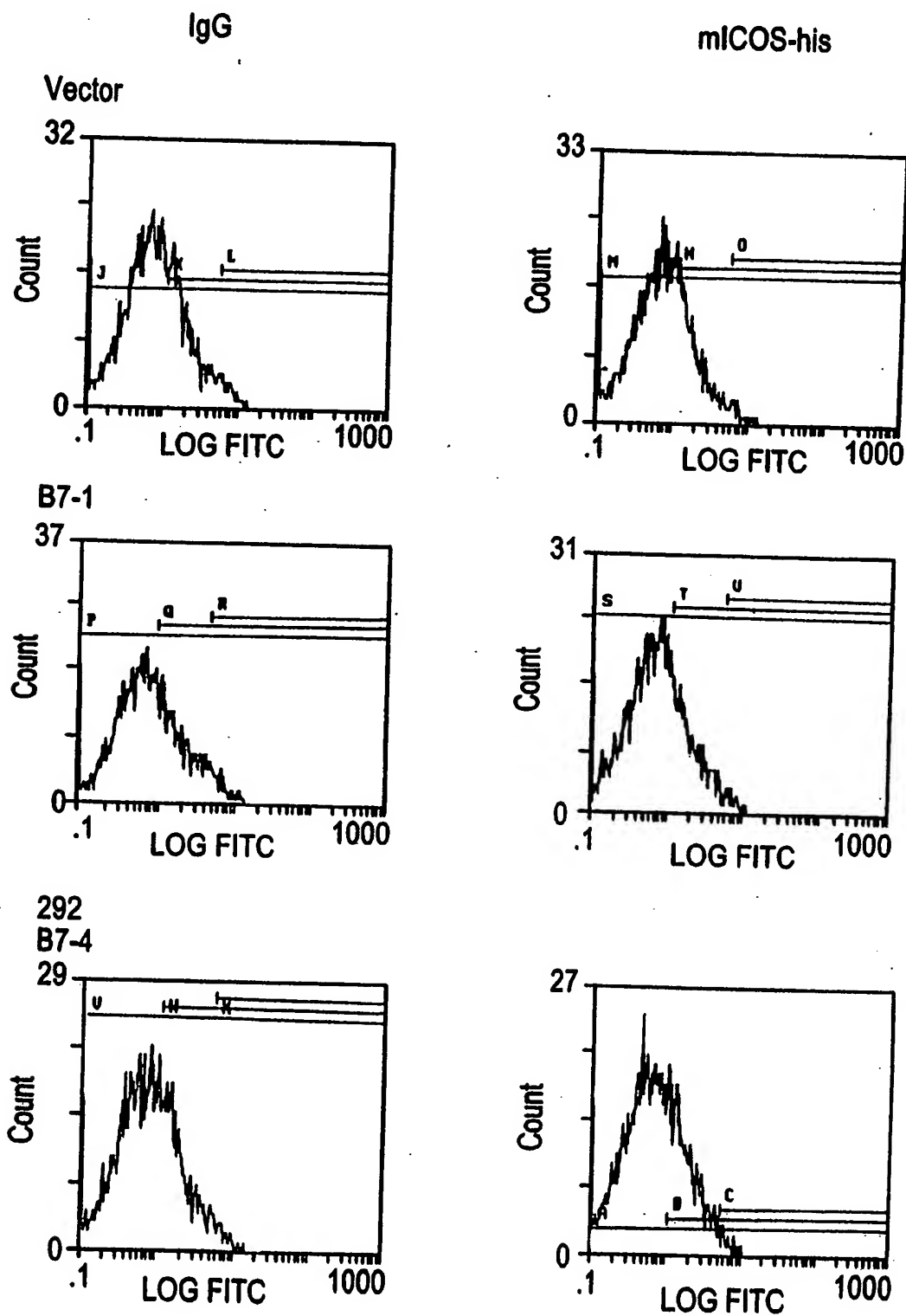




FIG. 10

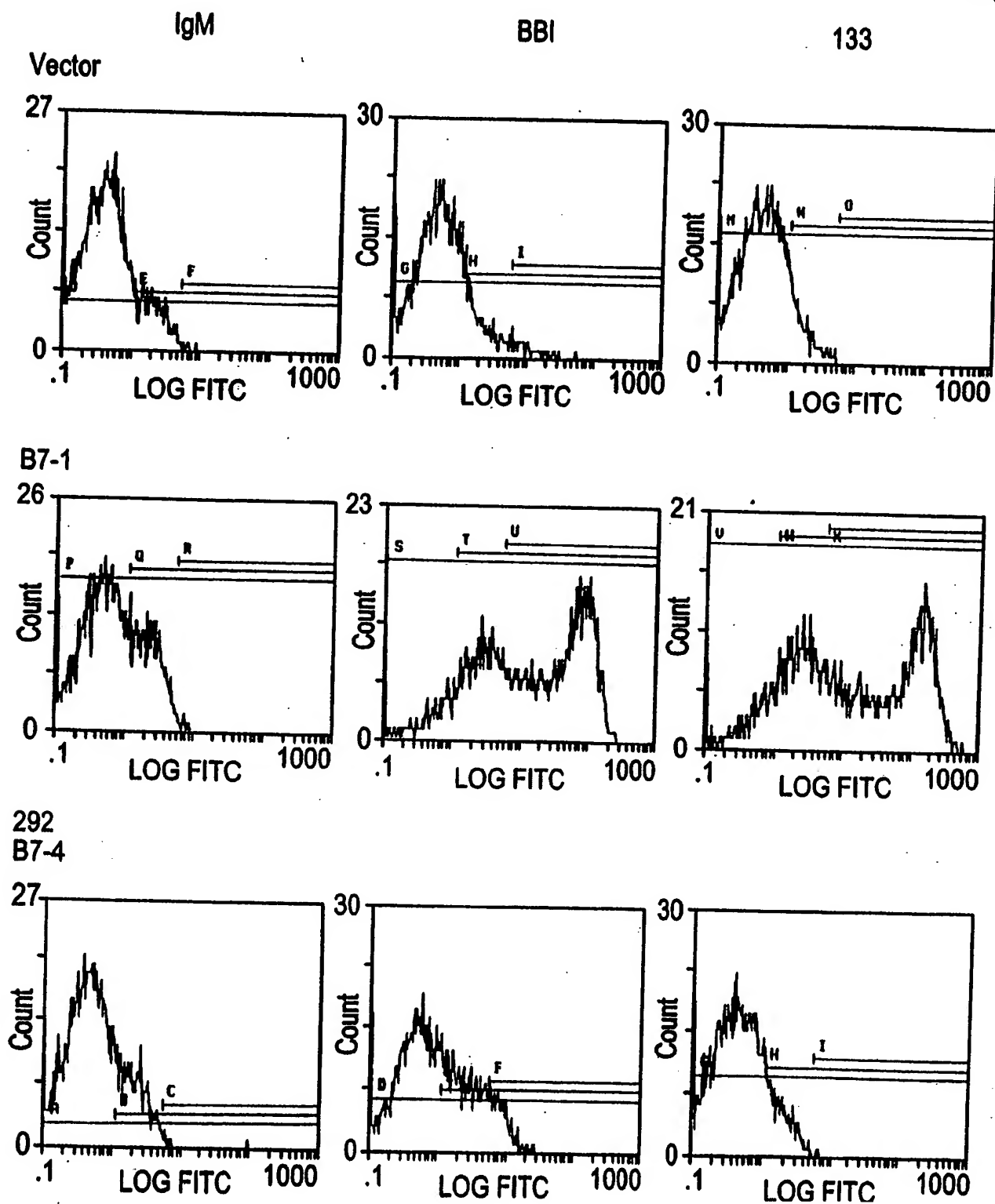




FIG. 11

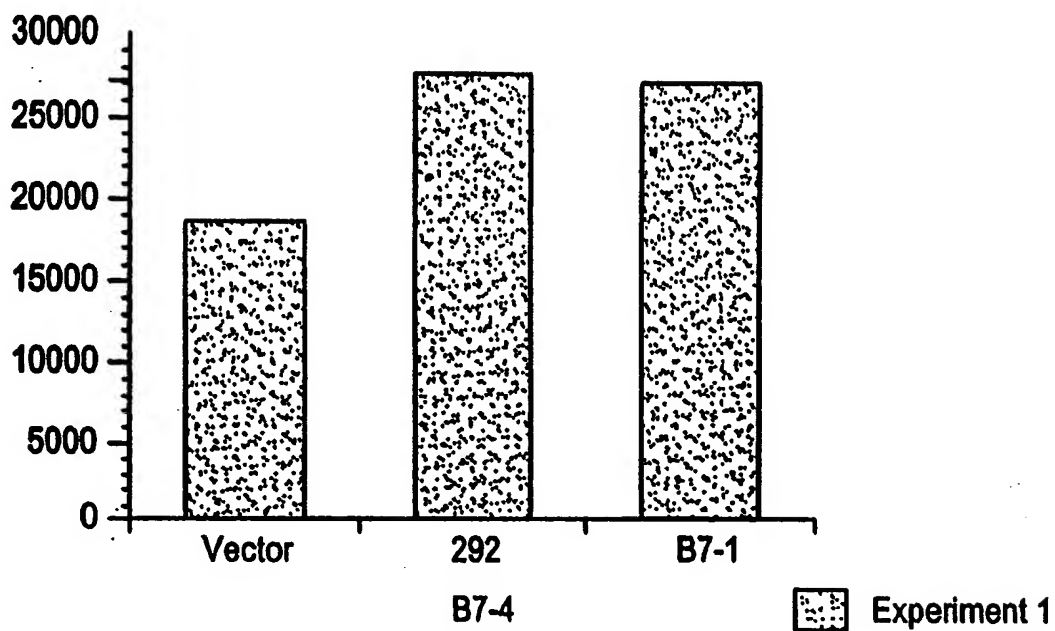


FIG. 12

